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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/742,382	12/22/2000	Kyoung-Woo Lee	0630-1199P	9442

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EXAMINER
MILLS, DONALD L

ART UNIT	PAPER NUMBER
2662	

DATE MAILED: 09/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/742,382	LEE ET AL.	
	Examiner	Art Unit	
	Donald L Mills	2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 June 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5 and 8-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5 and 8-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 June 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-5 and 8-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the claim specifies *the designation system* (See claim 1, line 9.) It is unclear from the context of the claim if the term *the designation system* refers to *a designated destination system.*

Regarding claim 2, the claim specifies *detecting an error signal during the transmission of the specific packet at the transmitting step* (See claim 2, lines 2-3.) However, the specification describes detecting an error signal ***after*** the transmission of the specific packet to the destination: *the packet transmitted through the ICMP is returned from the destination system to the source area system (S7). At this time, in case some error occurs on the network... detects the occurrence of the error and transmits an error message to the source area* (See page 6, paragraphs 29 and 30 and Figure 2.) It is unclear from the context of the claim which *transmitting step* is being referred too.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-5 and 8-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knauerhase et al. (US 6,215,774 B1), hereinafter referred to as Knauerhase in view of Hadi Salim et al. (US 6,535,482 B1), hereinafter referred to as Hadi Salim.

Regarding claim 1, Knauerhase discloses a system for dynamically determining effective speed of a communication link, which comprises:

Assigning, in a source system, a destination and a monitor period for monitoring a state of a network installed (Referring to Figure 2, determining effective link speed for communications between first device **2**, source, and second device **4**, destination, utilizing one or more "pings" when the link is idle. See column 3, lines 40-43.)

Generating a specific packet for measuring a bandwidth of the network (Referring to Figure 2, the source device transmits a ping, an ICMP echo request, to the destination device (Step **110**) for measuring effective link speed (Step **140**). In addition, it may derive a measure of effective link speed in terms of a quantity of data transmitted per unit of time. See column 3, lines 9-11, 20-22, and 33-34.)

Transmitting, from the source system, the specific packet through a network layer of the source system to a designated destination system (Referring to Figure 2, the source device transmits a ping, an ICMP echo request, to the destination device (Step **110**). See column 3, lines 9-11.)

Returning the specific packet received by the destination system to the source system; computing a bandwidth of the network using the returned specific packet (Referring to Figure 2, the destination device receiving the ping will transmit a

responsive ping back to the source device, the source device uses the time period to derive a measure of effective link speed (Step **140**). In addition, it may derive a measure of effective link speed in terms of a quantity of data transmitted per unit of time. See column 3, lines 13-15, 20-22, and 33-34.)

Knauerhase does not disclose *measuring a degree of congestion of the network.*

Hadi Salim teaches a TCP source sending data to the IP source, which is sent in the form of IP packets to router A. Router A determines the degree of congestion of the network at the router (See column 6, lines 57-60.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the congestion detection method of Hadi Salim in the system of Knauerhase. One of ordinary skill in the art would have been motivated to do so in order to determine the factor link congestion plays in the speed of a link as taught by Knauerhase (See column 4, lines 9-10.)

Regarding claims 2 and 18, the primary reference further teaches *wherein if the network error signal is detected during the transmission of the specific packet at the transmitting step, the method further comprises: transmitting an error message to the source system* (Referring to Figure 1, the network **6**, comprises the Internet, which comprises a series of links such as optical and/or electrical links comprising ADM which transmit and receive network errors during operation. See column 2, lines 41-42.)

Regarding claims 3 and 21, the primary reference further teaches *wherein the bandwidth of the network is computed by dividing a difference between the time at which the specific packet is transmitted from the source system and the time at which the specific packet from the destination system is returned to the source system, by a size of*

the specific packet (Referring to Figure 2, by marking the beginning time and ending time for the transmission, first device **2** derives a measure of effective link speed in terms of a quantity of data transmitted per unit of time. See column 3, lines 31-34.)

Regarding claims 4 and 22 as explained above in the rejection statement of claims 1 and 15; Knauerhase and Hadi Salim disclose all of the claim limitations of claims 1 and 15 (parent claims).

Knauerhase does not disclose *wherein the degree of congestion of the network is computed based on the computed bandwidth and a packet loss amount.*

Hadi Salim teaches if the Congestion Experienced, CE, bit has been set previously, at **320**, it is determined if the packet has been dropped by the RED process and if so the congestion level index is set (See column 8, lines 4-7.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the congestion detection method of Hadi Salim in the system of Knauerhase. One of ordinary skill in the art would have been motivated to do so in order to determine the factor link congestion plays in the speed of a link as taught by Knauerhase (See column 4, lines 9-10.)

Regarding claim 5 as explained above in the rejection statement of claim 1, Knauerhase and Hadi Salim disclose all of the claim limitations of claim 1 (parent claim).

Knauerhase does not disclose *wherein in case that a destination is changed, the steps of the method are sequentially performed again.*

Knauerhase teaches a method of measuring of effective link speed and determining data per unit of time for communications between network devices (See column 2, lines 31-32 and column 3, lines 31-34.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the congestion detection method of Hadi Salim in the link measurement system of Knauerhase for link measurement for different destinations. One of ordinary skill in the art would have been motivated to do so in order to determine the factor link congestion plays in the speed of a link as taught by Knauerhase (See column 4, lines 9-10,) for all possible destinations. In addition, unexpected results are not produced.

Regarding claim 8, the primary reference further teaches *detecting, by the source system, a network error signal* (Referring to Figure 1, the network **6**, comprises the Internet, which comprises a series of links such as optical and/or electrical links comprising ADM which transmit and receive network errors to and from sources and destinations during operation. See column 2, lines 41-42.)

Regarding claim 9, the primary reference further teaches *the generated network error signal is generated by a network operating system and transmitted to the source system over the network* (Referring to Figure 1, the network **6**, comprises the Internet, which comprises a series of links such as optical and/or electrical links comprising ADM which transmit and receive network errors during operation to and from sources and destinations. See column 2, lines 41-42.)

Regarding claim 10, the primary reference further teaches *repeating the generating step, the transmitting step, the returning step and the analyzing step in every assigned monitor period during a predetermined time* (Referring to Figure 2, a more detailed measure of effective link speed is determined by increasing the frequency at which the link speed is periodically rechecked. See column 3, lines 60-63.)

Regarding claims 11 and 19, the primary reference further teaches *wherein the transmitting step, the specific packet is transmitted by an ICMP of the source system* (Referring to Figure 2, the source device transmits a ping, an ICMP echo request, to the destination device (Step **110**). See column 3, lines 9-11.)

Regarding claims 12 and 20, the primary reference further teaches *wherein the receiving step, the specific packet is returned by an ICMP of the destination system* (Referring to Figure 2, the destination device receiving the ping will transmit a responsive ping, an ICMP message, back to the source device, the source device uses the time period to derive a measure of effective link speed (Step **140**). See column 3, lines 13-15.)

Regarding claim 13, the primary reference further teaches *wherein the computing step is performed if the detecting step does not detect any network error signal during the transmission of the specific packet at the transmitting step* (Referring to Figure 2, the source device uses the time period to derive a measure of effective link speed (Step **140**), which is only possible when the link is available and absent of interfering errors. See column 3, lines 13-15.)

Regarding claim 14, the primary reference further teaches *wherein the network is either the Internet or an intranet* (Referring to Figure 1, the network **6**, comprises the Internet. See column 2, lines 41-42.)

Regarding claim 15, Knauerhase discloses a system for dynamically determining effective speed of a communication link, which comprises:

A source device (Referring to Figure 1, client **2**.)

A destination device (Referring to Figure 1, server **4**.)

A network (Referring to Figure 1, network **6**.)

wherein the source device generates a specific packet for measuring a bandwidth (Referring to Figure 2, the source device transmits a ping, an ICMP echo request, to the destination device (Step **110**) for measuring effective link speed (Step **140**). In addition, it may derive a measure of effective link speed in terms of a quantity of data transmitted per unit of time. See column 3, lines 9-11, 20-22, and 33-34,) *transmits the specific packet to the destination device through a network layer of the destination device* (Referring to Figure 2, the source device transmits a ping, an ICMP echo request, to the destination device (Step **110**). See column 3, lines 9-11,) *receives the specific packet returned by the destination device, and computes a bandwidth of the network using the returned specific* (Referring to Figure 2, the destination device receiving the ping will transmit a responsive ping back to the source device, the source device uses the time period to derive a measure of effective link speed (Step **140**). In addition, it may derive a measure of effective link speed in terms of a quantity of data transmitted per unit of time. See column 3, lines 13-15, 20-22, and 33-34.)

Knauerhase does not disclose *measuring a degree of congestion of the network.*

Hadi Salim teaches a TCP source sending data to the IP source, which is sent in the form of IP packets to router A. Router A determines the degree of congestion of the network at the router (See column 6, lines 57-60.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the congestion detection method of Hadi Salim in the system of Knauerhase. One of ordinary skill in the art would have been motivated to do

so in order to determine the factor link congestion plays in the speed of a link as taught by Knauerhase (See column 4, lines 9-10.)

Regarding claim 16 as explained in the rejection statement of claim 15, Knauerhase and Hadi Salim teach all of the claim limitations of claim 15 (parent claim). Knauerhase further teaches *wherein the source device sets monitor times such that the generation and transmission of the specific packet and the computing of the bandwidth are performed in each monitor time for a predetermined time* (Referring to Figure 2, determining effective link speed for communications between first device **2**, source, and second device **4**, destination, utilizing one or more "pings" when the link is idle. See column 3, lines 40-43.)

Knauerhase does not disclose *measuring a degree of congestion of the network.*

Hadi Salim teaches a TCP source sending data to the IP source, which is sent in the form of IP packets to router A. Router A determines the degree of congestion of the network at the router (See column 6, lines 57-60.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the congestion detection method of Hadi Salim in the system of Knauerhase. One of ordinary skill in the art would have been motivated to do so in order to determine the factor link congestion plays in the speed of a link as taught by Knauerhase (See column 4, lines 9-10.)

Regarding claim 17, the primary reference further teaches *wherein the source device detects if there is any network error signal received, and if a network error signal is received, sends an error message to the destination device* (Referring to Figure 1, the network **6**, comprises the Internet, which comprises a series of links such as optical

and/or electrical links comprising ADM which transmit and receive network errors during operation to and from sources and destinations. See column 2, lines 41-42.)

Response to Arguments

5. Applicant's arguments filed June 25, 2004 have been fully considered but they are not persuasive.

Rejection Under 35 USC § 103

On page 11 of the remarks, regarding claims 1 and 15, Applicant argues that neither Knauerhase nor Hadi Salim teach *computing a degree of congestion of the network.* The Examiner respectfully disagrees. Hadi Salim teaches sending data to the IP source, which is sent in the form of IP packets to router A and the router A determines the degree of congestion of the network at the router (See column 6, lines 57-60.) The Examiner interprets the *degree of congestion of the network* as degree of congestion as determined by the router. Therefore, Hadi Salim teaches *computing a degree of congestion of the network.*

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald L Mills whose telephone number is 703-305-7869. The examiner can normally be reached on 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 703-305-4744. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Donald L Mills

August 27, 2004

JOHN PEZZLO
PRIMARY EXAMINER